

(19) World Intellectual Property Organization  
International Bureau(43) International Publication Date  
28 February 2002 (28.02.2002)(10) International Publication Number  
WO 02/17281 A1(51) International Patent Classification<sup>7</sup>: G09F 3/02, G09D 3/02, B42D 5/04

(21) International Application Number: PCT/GB01/03733

(22) International Filing Date: 17 August 2001 (17.08.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0020459.4 18 August 2000 (18.08.2000) GB

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(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DATE LABEL FOR PACKAGING

Mo	Tu	We	Th	Fr	Sa	Su	1	2	3	21
4	5	6	7	8	9	10	11	12	13	21
14	15	16	17	18	19	20	21	22	23	22
24	25	26	27	28	29	30	31	Ja	Fe	
Mr	Ap	My	Jn	Jy	Au	Se	Oc	No	De	

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(57) Abstract: The application relates to the labelling of merchandise, in particular perishables such as food and drugs. Accordingly it is an object of the present invention to mark food, drugs or other perishables so as to permit accurate display of the date on which a package is opened, or by which the contents must be consumed. According to the present invention there is provided a package label for a perishable product comprising a first array of date indicators, which first array of indicators is provided with a selectively removable coating which obscures the date indicators, and a second array of date indicators overprinted on the coating and related to the date indicators under the coating, wherein each date indicator of the second array differs by a predetermined time period, the arrangement being such that the user may visually select a date indicator of the second array and selectively remove the coating on which that indicator is printed to reveal the related date indicator of the first array.

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## Date Label for Packaging

The present invention relates to the field of labelling of merchandise, in particular perishables such as food 5 and drugs.

Commonly perishables packaged for sale have a "sell by" date label. Frequently there is also an advice label such as "consume within x number of days". A problem arises 10 when the user opens the package, breaking for example a preserving seal, but only partially consumes the contents. The package may then be returned to storage, for example in a fridge or larder. The next time the contents of the package are to be consumed the consumer 15 has to rely upon his/her memory to recall whether the product is past its "consume by" date. For a typical household the next consumer may not even be the original consumer, and so has no way of knowing when the unsealed product should be consumed by.

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This creates a danger of consuming an out of date food, with potential danger that spoiled food may be eaten or the consumer may even suffer from food poisoning. In the drug field there is a danger that the drug may have 25 become inactive or even harmful with potentially dire consequences.

Accordingly it is an object of the present invention to provide a system for marking food, drugs or other perishables so as to permit accurate display of the date on which a package is opened, or by which the contents 5 must be consumed.

According to the present invention there is provided a package label for a perishable product comprising a first array of date indicators, which first array of indicators 10 is provided with a selectively removable coating which obscures the date indicators, and a second array of date indicators disposed, for example overprinted, on the coating and related to the date indicators under the coating wherein each date indicator of the first array 15 and its corresponding date indicator of the second array differ by a predetermined time period, the arrangement being such that the user may visually select a date indicator of the second array and selectively remove the coating on which that indicator is printed to reveal the 20 related date indicator of the first array.

In this way a user can, on the day or time that the package is opened, provide that package with a visual indication of the date of opening, or another related 25 date, such as date to be consumed by. In this way the opened package is provided with a visual indication which

will prevent the consumer from using perished product.

The product may be foodstuff or drugs or other perishable goods.

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In one aspect of the present invention each date indicator of the first array and its related date indicator of the second array differ by a time period equalling a recommended consume by date for the product 10 to be labelled. In this arrangement, the user may select the present date or time from the second array and remove the coating to reveal the consume by date beneath. The user does not have to calculate the consume by date, reducing the chance of accidental consumption of 15 perishable goods due to miscalculation.

The first and second arrays preferably each comprise a plurality of day indicators. The day indicators may be labelled as days of the week, but in a preferred 20 embodiment are labelled 1 to 31, thereby to give at least a month's worth of days.

The first and second arrays may each comprise a plurality of month indicators. The month indicators may be labelled as respective names of the months, or by numbering 1 to 25 12. For product with a short life span a limited number of days or months may be displayed.

The first and second arrays may each comprise a plurality of year indicators. Typically only a few years will be indicated, allowing for opening of a product at the end of one year and consumption in the following year.

5 However applications may arise where several years' worth of year indicators are required. In such cases day indicators, and even month indicators, in the arrays may not be required as the date resolution may only need to be years or months.

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Each array may comprise one or more of minute, hour, day, week, month and year indicators. These will be selected according to the nature of the product and the time/date resolution appropriate and required for that product.

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Where very high date resolution is required, for example portions of a day, the date indicators may include hour or even minute indicators, typically arranged in groups of 24 and 60 respectively. In these circumstances year 20 and month indicators may be redundant and left off the label.

In a preferred arrangement the first array comprises day indicators arranged in a group of 1 to 31, month 25 indicators arranged in a group of 1 to 12, and one or more year indicators. There may also be a group of

indicators expressing days of the week, or weeks numbered as for example 1 to 52.

Preferably the arrays are arranged in rectangular blocks,  
5 comprising one or more groups of indicators. Other formats are not excluded, however. For example the arrays could be arranged in circular, linear or oval formats.

Preferably the indicators of the first and second arrays  
10 are visually distinctive one from another, by for example colour, typeface, background or the like.

The coating may be a scratch removal coating of a type known in the art of lottery tickets or similar gaming  
15 cards. This sort of coating has the advantage of providing a well adhered coating, which adheres until scratch removal, where upon it may be removed in small portions corresponding to individual date indicators.

20 The label may be applied directly onto packaging for the product my steps including: printing of the first array of indicators, applying a coating over the first array and then printing of the second array of indicators onto the coating.

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Alternatively, the label may be applied onto a tab,

preferably self-adhesive, for subsequent application to the packaging. The tab may have a peelable backing of for example plastic film or coated paper.

5 In another aspect of the invention there is provided packaging for perishable products provided with a label as hereinbefore described.

According to yet another aspect of the invention there  
10 is provided a method of packaging a perishable product comprising calculating an offset time between opening and use of the product, disposing the product in sealed packaging, applying a label as hereinbefore described to the packaging, the offset time being the difference in  
15 time indicator periods between the first and second arrays, whereby removal of a date indicator from the exposed second array reveals a date indicator in the first array corresponding to a consume by date.

20 Following is a description by way of example only of a method of putting the present invention into effect.

In the drawings:

25 Figure 1 shows a label according to the present invention in which the coating has been removed.

Figure 2 shows a label according to the present invention in which the coating is present.

Figure 3 shows the label in figure 2 with a day of the 5 week indicator, a day of the month indicator and a month indicator removed.

A package label 10 for a perishable product is shown in figure 1. Package label 10 comprises a rectangular base 10 layer 11 having a front face 20 and rear surface (not visible). Rectangular base layer 11 is made of brightly coloured paper and has a surface area of 1000 square millimetres.

15 The rear face of the base layer 11 is provided with a self adhesive backing (not shown). The self adhesive backing is covered by a peelable plastic film for storage. The peelable plastic film is removed when the product is about to be used. The self adhesive backing 20 is suitable to adhere the label to the packaging of a perishable product, whether it be metal, plastic or paper.

Front face 20 of the base layer 11 has horizontal and 25 vertical lines 21&22 (respectively) printed on its surface. Horizontal and vertical lines 21&22 are equally

spaced and divide the base layer into an array of 50 rectangular boxes 25.

Each rectangular box 25 contains printed date information

5 26. The boxes 25 containing the information 26 are arranged in sequence from left to right, each row of boxes continuing from the row above. For languages where writing is conventionally read in other directions the sequence may extend in other appropriate directions.

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The information printed in each of the first seven boxes relates to a day of the week. The day of the week is given as a two letter abbreviation. The information in the first seven boxes is thus: Mo, Tu, We, Th, Fr, Sa and

15 Su.

After the seven boxes relating to the day of the week, the next thirty one boxes are printed with information relating to the day of the month. Each day of the month

20 is given as an arabic numeral. The arabic numerals run from 1 to 31 inclusive.

The remaining twelve boxes are printed with information relating to the month of the year. As with the day of the

25 week this information is in the form of a two letter abbreviation. The abbreviations printed in order along

the boxes are: Ja, Fe, Mr, Ap, My, Jn, Jy, Au, Se, Oc, No and De.

5 The horizontal and vertical lines 21&22 separating one category of date information from another are printed in bold 28 to enabling one category of date information to be easily distinguished from the others.

10 In figure 2, front face 20 of the base layer 11 has been covered with a coating 30, which obscures the date information 26 shown in figure 1. Coating 30 is of a type which is capable of scratchable removal. Such types of coating are well known in the field of lottery tickets and gaming cards, and are not further described herein.

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Coating 30 has printed thereon horizontal and vertical lines 41&42 (respectively) and date information 46 corresponding directly to that printed on the rectangular base layer 11. The date information 46 on the coating 30 20 is printed in a different font to the date information 26 printed on the base layer 11. The coating may be coloured or shaded to be distinct from the base layer, thereby heightening the visibility of the subsequently removed date data with respect to the surrounding 25 coating.

Figure 3 shows the label when in use. Label 10 is used to record the time when a user opens a perishable product, for example a packet of ham. First, the user locates the correct day of the week using the date information 46 printed on the coating 30. When the correct day of the week has been located the user scratches off the coating 30 to reveal the corresponding day of week 50 printed on the base layer 11. The same procedure is performed for the day of the month 51 and month of the year 52. For example, if the perishable product is opened on Friday 14 July the user would scratch off the coating covering the boxes containing Fr (50), 14 (51) and Jy (52).

Once the date of opening has been revealed the adhesive backing can be used to stick the label 10 to the perishable product, which in turn can be stored in a cupboard, larder, refrigerator, freezer or other food store. When the consumer or another individual requires the product it is immediately obvious when the product was opened and it can be easily calculated whether the product is still within the "consume by" date.

Clearly the coating will have to be reasonably resistant to the freeze/thaw process, and not become brittle on freezing.

In another embodiment, the label may be applied to the package before it is put on sale, rather than at the time of opening. The label is however used in the same way by the consumer on opening.

## Claims

1. A package label for a perishable product comprising a first array of date indicators, which first array of indicators is provided with a selectively removable coating which obscures the date indicators, and a second array of date indicators disposed on the coating and aligned with corresponding date indicators of the first array under the coating, wherein each date indicator of the first array and its corresponding date indicator of the second array differ by a predetermined time period, the arrangement being such that the user may visually select a date indicator of the second array and remove the coating on which that indicator is printed to reveal 15 the corresponding date indicator of the first array.
2. A package label as claimed in claim 1 wherein the offset time period corresponds to a consume-by period for the product after opening, so that the date indicator of 20 the first array is a consume-by date for a product opened on the corresponding date of the second array.
3. A package label as claimed in claim 1 or claim 2 wherein the first and second arrays each comprise a 25 plurality of day indicators.

4. A package label as claimed in any preceding claim wherein the first and second arrays each comprise a plurality of month indicators.
5. A package label as claimed in any preceding claim wherein the first and second arrays each comprise a plurality of year indicators.
6. A package label as claimed in any preceding claim comprising an adhesive tab upon which has been printed the first array, removable coating and second array.
7. Packaging for perishable products provided with a label according to any preceding claim.

8. A method of packaging a perishable product comprising calculating an offset time between opening and latest use of the product, disposing the product in sealed packaging, applying a label as hereinbefore claimed to the packaging, the offset time being the difference in time indicator periods between the first and second arrays, whereby removal of a date indicator from the exposed second array reveals a date indicator in the first array differing by the offset time period.

9. A method as claimed in claim 8 wherein the offset time period corresponds to a consume-by period for the product after opening, so that the date indicator of the first array is a consume-by date for a product opened on the 5 corresponding date of the second array.

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FIG.1

Mo	Tu	We	Th	Fr	Sa	Su	1	2	3
4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23
24	25	26	27	28	29	30	31	Ja	Fe
Mr	Ap	My	Jn	Jy	Au	Se	Oc	No	De

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FIG.2

Mo	Tu	We	Th	Fr	Sa	Su	1	2	3
4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23
24	25	26	27	28	29	30	31	Ja	Fe
Mr	Ap	My	Jn	Jy	Au	Se	Oc	No	De

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FIG.3

Mo	Tu	We	Th	Fr	Sa	Su	1	2	3
4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23
24	25	26	27	28	29	30	31	Ja	Fe
Mr	Ap	My	Jn	Jy	Au	Se	Oc	No	De

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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 01/03733

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 G09F3/02 G09D3/02 B42D5/04

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G09F G09D B42D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 709 199 A (J.L.DUCASSE) 24 February 1995 (1995-02-24) page 3 -page 4; figures 1,2 ---	1-9
X	US 2 179 168 A (E.ALEXANDER) 7 November 1939 (1939-11-07) column 1 -column 2; figures 1-5 ---	1-9
A	FR 2 686 719 A (KNIGHTWAY PROMOTIONS LTD.) 30 July 1993 (1993-07-30) page 1 -page 2; figure 1 ---	1
A	US 4 830 407 A (S.R.SADLER) 16 May 1989 (1989-05-16) column 3 -column 4; figures 1,2 ---	1 -/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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Date of the actual completion of the international search

29 November 2001

Date of mailing of the International search report

07/12/2001

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## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/GB 01/03733

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 819 352 A (J.MAUNAND) 11 April 1989 (1989-04-11) column 1 -column 4; figures 1-4 -----	1

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

151/GB 01/03733

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
FR 2709199	A	24-02-1995	FR	2709199 A1		24-02-1995
US 2179168	A	07-11-1939	NONE			
FR 2686719	A	30-07-1993	FR	2686719 A1		30-07-1993
US 4830407	A	16-05-1989	NONE			
US 4819352	A	11-04-1989	FR EP	2611069 A1 0281437 A1		19-08-1988 07-09-1988